AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1.   (Currently Amended) A method for multi-reading a plurality of IDs, ~~wherein an~~ by which an interrogator and multiple transponders repeat queries and responses there-between in order ~~that~~ to allow the interrogator to discriminate ~~discriminates~~ a unique ID given to each one of the transponders[[;]], the method comprising:

    specifying, by the interrogator, a first read range of IDs in a first query; and

    if the interrogator does not receive a response to the first query, or receives only a single response to the first query, transmitting, by the interrogator, a second query specifying a second read range of IDs which is twice the size of the first read range of IDs ~~and~~

    ~~wherein said interrogator when querying specifies a read range of IDs and permits a response from only the transponders whose IDs are within said read range~~.

2.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 1, ~~wherein said transponders when responding return their IDs, comprising the steps of~~ further comprising:

    ~~1) when there is a plurality of responses to the query of said interrogator, reducing the size of said read range by half in the subsequent query;~~

    ~~2) when there is a single response to the query of said interrogator, reading out ID of the transponder which responded as well as shifting said read range to the~~

~~following rank in the subsequent query; and further when there is a single response or~~

~~no response to the previous query, expanding the size of said read range d twice; and~~

~~3) when there is no response to the query of said interrogator, shifting said read~~

~~range to the following rank in the subsequent query; and further when there is a~~

~~single response or no response to the previous query, expanding the size of said read~~

~~range d twice;~~

~~whereby the above mentioned steps are repeated until searching of all the read~~

~~ranges in which IDs to be read may exist is completed~~

responding, by a transponder, with an ID of the transponder, if the transponder has

an ID within the first read range of IDs;

transmitting, by the interrogator, a second query specifying a second read range of

IDs which is half the size of the first read range of IDs, if the interrogator receives a

plurality of responses to the first query;

reading an ID of a responding transponder, if the interrogator receives a single

response to the first query; and

transmitting, by the interrogator, a second query specifying a second read range of

IDs having a starting ID differing from a starting ID of the first read range of IDs, if the

interrogator does not receive a response to the first query or receives only a single

response to the first query,

wherein the method is repeated until a search for all possibly existing IDs has

been completed.

3. (Currently Amended) The method for multi-reading a plurality of IDs as described in claim [[1]] 14, further comprising ~~wherein said transponders when responding returns only response signals, comprising the steps of:~~

~~1) when there is a response/responses from said transponders to the query of said interrogator, and~~

~~1.1) when the size of said read range d is not equal to 1, reducing the size of said read range d by half in the subsequent query;~~

~~1.2) when the size of said read range d is equal to 1, reading out ID of the transponder which responded as well as shifting said read range to the following rank in the subsequent query; and further when there is a response/responses to the previous query and the size of said read range d is equal to 1 or when there is no response, expanding the size of said read range d twice; and~~

~~2) when there is no response from said transponders to the query of said interrogator, shifting said read range to the following rank in the subsequent query; and further when there is a response/responses to the previous query and the size of said read range d is equal to 1 or when there is no response, expanding the size of said read range d twice;~~

~~whereby the above mentioned steps are repeated until searching of all the read ranges in which IDs to be read may exist is completed~~

responding, by a transponder, if the transponder has an ID within the first read range of IDs;

transmitting, by the interrogator, a second query specifying a second read range of IDs which is half the size of the first read range of IDs, if the interrogator receives a response to the first query and the first read range of IDs comprises more than a single ID;

reading an ID of a responding transponder, if the first read range of IDs comprises a single ID; and

transmitting, by the interrogator, a second query specifying a second read range of IDs having a starting ID differing from a starting ID of the first read range of IDs, if the interrogator does not receive a response to the first query, or if the interrogator receives a response to the first query and the first read range comprises a single ID,

wherein the method is repeated until a search for all possibly existing IDs has been completed.

4.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 2, wherein the ~~size~~ sizes of ~~said read range d is~~ the first and second read ranges are defined by powers of two, and the first and second read ranges are specified by one of a start value and an end value, and an exponent value which sets a size of a read range of IDs 2^e, ~~i.e. the power of 2, and said read range d is specified by an integer value of either the start S or the end E of said read range d and exponent e of said read range d~~.

5.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 4, wherein a reduction of a size of a read range of IDs is performed by reducing the exponent value ~~the reduction value (d/2) of the size of said read range d is calculated by exponential function, e=e-1~~.

6.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 4, wherein an expansion of a read range of IDs is performed by

increasing the exponent value ~~the expansion value (2×d) of the size of said read range d is calculated by exponential function, e=e+1~~.

7.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 4, wherein ~~the~~ an end value E of ~~said~~ a read range is calculated by the formula $E=S+2^e-1$ when ~~said~~ the read range is specified by ~~the~~ a start value S of ~~said~~ the read range and ~~the~~ an exponent value e.

8.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 4, wherein ~~the~~ a start value S of ~~said~~ a read range is calculated by the formula $S=E-2^e+1$, when ~~said~~ the read range is specified by ~~the~~ an end value E of ~~said~~ the read range and ~~the~~ an exponent value e.

9.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 3, wherein the ~~size~~ sizes of ~~said read range d is~~ the first and second read ranges are defined by powers of two, and the first and second read ranges are specified by one of a start value and an end value, and an exponent value which sets a size of a read range of IDs 2^e, ~~i.e. the power of 2, and said read range d is specified by an integer value of either the start S or the end E of said read range d and exponent e of said read range d~~.

10.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 9, wherein a reduction of a size of a read range of IDs is performed by

reducing the exponent value ~~the reduction value (d/2) of the size of said read range d is~~ ~~calculated by exponential function, e=e-1~~.

11.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 9, wherein <u>an expansion of a read range of IDs is performed by increasing the exponent value</u> ~~the expansion value (2×d) of the size of said read range d is calculated by exponential function, e=e+1~~.

12.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 9, wherein ~~the~~ <u>an</u> end <u>value</u> E of ~~said~~ <u>a</u> read range is calculated by <u>the</u> formula $E=S+2^e-1$ when ~~said~~ <u>the</u> read range is specified by ~~the~~ <u>a</u> start<u>value</u> S of ~~said~~ <u>the</u> read range and ~~the~~ <u>an</u> exponent <u>value</u> e.

13.   (Currently Amended) The method for multi-reading a plurality of IDs as described in claim 9, wherein ~~the~~ <u>a</u> start <u>value</u> S of ~~said~~ <u>a</u> read range is calculated by <u>the</u> formula $S=E-2^e+1$, when ~~said~~ <u>the</u> read range is specified by ~~the~~ <u>an</u> end <u>value</u> E of ~~said~~ <u>the</u> read range and ~~the~~ <u>an</u> exponent <u>value</u> e.

14.   (New) A method for multi-reading a plurality of IDs, by which an interrogator and multiple transponders repeat queries and responses there-between in order to allow the interrogator to discriminate a unique ID given to each one of the transponders, the method comprising:

   specifying, by the interrogator, a first read range of IDs in a first query; and

if the interrogator does not receive a response to the first query, or if the interrogator receives a response to the first query and the first read range comprises a single ID, transmitting, by the interrogator, a second query specifying a second read range of IDs which is twice the size of the first read range of IDs.